

Lesson Plan

MCM DAV College for Women, Sector – 36 A, Chandigarh

Monthly Teaching Plans (Odd Semester)

Session: 2025-26

Name of the Teacher: Dr. Madhuri, Dr. Rishu, Dr. Aanchal Batra

Department: Chemistry

Class: B.Sc (3rd Semester)
302)

Subject: (CHM-DSC-5-MIN-

S.No.	Date (Monthly)		Topics to be Covered	Academic Activity Undertaken*
	From	To		
1.	24-07-2025	30-08-2025	<p><u>INORGANIC CHEMISTRY</u></p> <p>Group 13 Elements: Comparative study (including diagonal relationship) of groups 13 elements, Study of the following compounds with emphasis on structure, bonding, preparation, properties and uses:</p> <p><u>ORGANIC CHEMISTRY</u></p> <p>Aromaticity and Arenes: Aromaticity: The Huckel's rule, aromatic ions. Nomenclature of benzene derivatives, aryl group, aromatic nucleus and side chain, Structure of benzene: Molecular formula and Kekule structure. Stability and carbon-carbon bond lengths of</p>	Lecture

			benzene, resonance structure, and MO picture. <u>PHYSICAL CHEMISTRY</u> Thermodynamics-III: Third Law of Thermodynamics: Nernst heat theorem, statement and concept of residual entropy, evaluation of absolute entropy from heat capacity data.	
2.	01-09-2025	30-09-2025	<u>INORGANIC CHEMISTRY</u> Group 13 Elements: Boric acid and borates, boron nitrides, boron hydrides (diborane), boron halides, alumina. <u>ORGANIC CHEMISTRY</u> Aromaticity and Arenes: Aromatic electrophilic substitution- General pattern of the mechanism, role of σ and π -complexes. Mechanism of nitration, halogenation, sulphonation, mercuration and Friedel-Crafts reaction. Energy profile diagrams. Activating and deactivating substituents, orientation and ortho/para ratio. Side chain reactions of benzene derivatives. Methods of formation and chemical reactions of alkylbenzenes, alkynylbenzenes and biphenyl. <u>PHYSICAL CHEMISTRY</u> Thermodynamics-III: Gibbs and Helmholtz functions; Gibbs function (G) and Helmholtz functions (A) as thermodynamic quantities, A &	Lecture and discussion

			G as criteria for thermodynamic equilibrium and spontaneity, and their advantage over entropy change. Variation of G and A with P, V and T.	
3.	01-10-2025	31-10-2025	<p><u>INORGANIC CHEMISTRY</u></p> <p>Group 14 Elements: Comparative study (including diagonal relationship) of groups 14 elements, allotropic forms of carbon, graphitic compounds,</p> <p><u>ORGANIC CHEMISTRY</u></p> <p>Alkyl and Aryl halides: Nomenclature and classes of alkyl halides, methods of formation, chemical reactions. Mechanisms of nucleophilic substitution reactions of alkyl halides, SN² and SN¹ reactions with energy profile diagrams. Methods of formation of aryl halides, nuclear and side chain reactions. The addition-elimination and the elimination-addition mechanisms of nucleophilic aromatic substitution reactions.</p> <p><u>PHYSICAL CHEMISTRY</u></p> <p>Chemical Equilibrium: Equilibrium constant and free energy, Thermodynamic derivation of law of mass action, Le-Chatelier's principle,</p>	Lecture
4.	01-11-2025	10-11-2025	<p><u>INORGANIC CHEMISTRY</u></p> <p>Group 14 Elements: compounds like hydrides, oxides, oxyacids and halides of groups 14, fullerenes, carbides, fluorocarbons.</p>	Lecture and group discussion

			<p><u>ORGANIC CHEMISTRY</u></p> <p>Alkyl and Aryl halides: Relative reactivities of alkylhalides vs. allyl, vinyl and aryl halides.</p> <p><u>PHYSICAL CHEMISTRY</u></p> <p>Chemical Equilibrium: Reaction isotherm and Reaction isochore-Clapeyron equation and Clausius–Clapeyron equation, applications.</p>	
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Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
27 th August, 2025	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
24 th Sept, 2025	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
29 th Oct, 2025	The teachers have completed the scheduled chapters and topics as shown in the lesson plan
Departmental Meeting to Coordinate and Review the Monthly completion of Syllabus as per lesson plans	
10 th Nov, 2025	The teachers have completed the scheduled chapters and topics as shown in the lesson plan

***Any of these** – (i) Lecture Method; (ii) PPT; (iii) Online Sources; (iv) Group Discussion; (v) Case Studies etc. Other Methods adopted by the teacher – Please write the specific teaching method

